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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/002,141

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Alexander Beeck

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EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

05/26/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/002,141	Applicant(s) BEECK ET AL.	
	Examiner NATHANIEL WIEHE	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 16, 22-29 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 16, 22-29 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 April 2010 has been entered.

Response to Arguments

Applicant's arguments filed 30 April 2010 have been fully considered but they are not persuasive.

It is first noted that Applicant's arguments track greatly with those addressed in the prosecution history, at least in that Applicant perceives the references to fail to teach (1) a passage large enough for insertion of a borescope and (2) a passage that operates as a dust discharge passage. As noted in the previous Office Actions, the examiner respectfully disagrees with such positions.

Firstly, Applicant asserts that Semmler teaches only a slot configuration incapable of allowing entry of a borescope. Applicant selectively points to a passage of Semmler indicating that the passage can take the form of a blow-out slot (column 3, line 63), but Applicant appears to have ignored the immediately preceding line wherein Semmler indicates that the passage can be in the form of "blow-out openings, or a blow-out slot". Further, that statement is not in regard to the passage itself, but to the trailing

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edge exhaust openings or slot located below the passage. Next, Applicant attests that a passage "of the order of 8mm" is necessary for the introduction of a borescope and baldly asserts that Semmler teaches a slot "typically of the order of 4mm". Applicant provides no basis for either the assertion of (1) Semmler's passage being 4mm or (2) a borescope requiring an 8 mm opening. Firstly, the Applicant's originally filed specification is silent as to any such dimensional aspects necessary to carryout the invention, as now asserted by Applicant's remarks. Secondly, such assertions are contrary to the evidence currently in the record. The previously cited reference DE 198 01 804 C2 states that the dimensions of holes in a turbine blade necessary for introduction of a borescope are more than 1 mm, particularly 1.2 mm up to 1.5 mm, or if necessary more than 1.5 mm. These dimensions are of a scale significantly less than those asserted by Applicant. Further, Applicant has attested to the purported fact that Semmler's passage's dimension is of the order of 4 mm. Since the evidence in the record indicates that such a dimension is large enough for introduction of a borescope, as evidenced by DE 198 010 804 C2, such an assertion amounts to an admission, on the part of Applicant, that Semmler's passage is "dimensioned to enable the introduction of a borescopee [sic]", as claimed.

Secondly, Applicant asserts that "[t]he grounds for rejection appear to rely upon a teaching contained in *Schwarzmann* with respect to an aperture 72 described therein." Such an assertion is wholly incorrect. First, the rejection requires no teaching. Semmler stands alone and discloses every aspect of the claimed invention, as required in a rejection under § 102. The examiner noted Schwarzmann merely as evidence of

what is understood in the art. Second, the examiner is not equating the aperture 72 of Schwarzmann with any part of Semmler. Rather, the examiner is noting the inherent nature of Semmler's "partial flow K2" to include dust/particles apart from the main flow path (K1) due the higher inertia developed by the high centrifugal forces of a turbine acting on such relatively massive dust/particles thus directing them into the radially outer flowpath. Such a natural flow phenomenon is described in Schwarzmann, but is inherent to the blade of Semmler. The examiner's reference to Schwarzmann was only intended to aid the Applicant in understanding such an inherent aspect of Semmler.

Claim Objections

Claim 16 is objected to because of the following informalities:

On line 15, "borescopee" should read –borescope--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3,16,22-29 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Semmler et al. (6,347,923), hereinafter "Semmler". Semmler discloses a component, i.e. blade, of a fluid flow machine including a leading edge (16), trailing

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edge (18), and a coolant passage. The coolant passage includes a first section (24) through which cooling medium flows toward a curved flow section, a second section (26) adjacent the first section (24) through which a cooling medium flows away from the curved flow section, the first (24) and second (26) sections are separated from each other by a first wall (32) and a second wall (34) has a portion defining the second section (26). As most applicable to Fig. 4, Semmler includes a second passage (42) tangentially branching off of the curved flow section and perpendicular to the first and second sections (24,26) that is defined by a second portion (40) of the second wall (34). The second passage (42) is partially defined by a second portion, i.e. the tip, of a third wall, and the first section is partially defined by a first portion, i.e. the leading edge, of a third wall. The first portion, i.e., the portion of web (34) below the second portion (40), of the second wall is not connected to the second portion of the third wall, i.e. the blade tip adjacent passage (42). The second passage (42) includes a relatively large exhaust/exit port at the trailing edge and provides for a straight line of sight through such a port along the passage to the first portion of the third wall, i.e. the leading edge. A portion of the cooling medium (K2) is diverted in the curved flow section and travels through the second passage, while the majority of the cooling medium (K1) travels into the second passage (26). The coolant medium is introduced into the blade through a single passage (K) disposed in the foot portion (30) of the blade. Semmler is silent as to the effect that the second passage has with respect to dust in the coolant medium. However, it is inherent that the arrangement of Semmler would act such that through passage (36), second passage (42) and the exhaust/exit port at the end of the second

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passage (42) discharge dust from the coolant medium, as evidenced by Schwarzmann et al. (4,775,296), hereinafter "Schwarzmann". Specifically, Schwarzmann discloses a blade having a coolant arrangement similar to that of Semmler, in that coolant medium flows through a first passage (54) around a curved section and back inwardly through a second passage. Schwarzmann further includes a hole (72) through the second wall (38) adjacent the tip (36) of the blade that is similar to through passage (36) of Semmler. The hole (72) acts to discharge dust particles that would otherwise be trapped in the outer portion of the curved section due to the rotation forces generated by the fluid flow machine. (Schwarzmann column 4, lines 35-45). Thereby, the dust discharging effect noted by Schwarzmann is also produced by the like arrangement of Semmler. Additionally, the relative greater mass and inertia of the dust particles would inherently entrain them into the outer flow (K2) of Semmler exiting the blade through the exhaust/exit port at the end of the second passage, which constitutes a dust discharge aperture. Further, a borescope is capable of being introduced through the second passage due to the relatively large dimension of the exhaust/exit port at the end of the second passage (42), the second passage, and the through passage (36). Additionally, Applicant's arguments dated 30 April 2010 constitute an admission that Semmler's passage (42) is so dimensioned. Specifically, Applicant has attested that Semmler's passage is "typically on the order of 4 mm" and as evidenced by DE 198 01 804 C2, already part of the record at the time of such assertion, a borescope is insertable through a hole having a dimension greater than 1mm, particularly between 1.2 mm and 1.5 mm or, if necessary, over 1.5 mm. Thus, the asserted dimension of Semmler's

passage is more than capable of allowing introduction of a borescope and thus Semmler meets the limitation of the aperture being "dimensioned to enable the introduction of a borescopee [sic]" therethrough.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANIEL WIEHE whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN WIEHE/
Nathan Wiehe
Examiner
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